November 21, 1967

25X1 [redacted]
Post Office Box 6788
Fort Davis Station
Washington, D. C. 20020

25X1 Attention: [redacted]
25X1 Subject: [redacted]

Gentlemen:

Enclosed is one copy of our revised Acceptance Test Procedure for the subject contract. This revision includes several additional testing procedures requested by your technical representative.

Under separate cover one copy is also being sent directly to your technical representative.

Very truly yours,

25X1 [redacted]

Program Administrator
Photogrammetric and Military Systems

Enc.

cc: Ed D.

Declass Review by NGA.

ACCEPTANCE TEST PROCEDURE

For

ANAMORPHIC ATTACHMENT

For

High Power Stereoviewer

[redacted] 25X1

Test performed by _____ DATE _____

_____ DATE _____

Anamorphic Attachment Accepted _____ DATE _____

[redacted] 25X1

Revised 11/7/67

Acceptance Test Procedure for Anamorphic Attachment

The tests will be performed using the standard [redacted] High Power Stereoviewer equipped with the [redacted] 3X, 6X and 10X objectives, the [redacted] 1.3X objective and the [redacted] 6X and 10X eyepieces except as noted.

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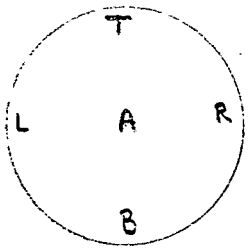
1. Resolution

Resolution will be measured axially and at four places at the edge of the field as illustrated in the sketch of the field.




The resolution values of the HPSV without the Anamorphic Attachment will be considered as the reference values. The resolution read with the Anamorphic Attachment in place will be compared with the reference values. The resolution values of the HPSV with Anamorphic Attachment should be at least 90% of the resolution values of the HPSV. A high contrast, black bars on clear background, target will be used.

| Objectives | 10X Eyepiece Zoom Setting | HPSV Resolution at Field Position A | L | R | T | B | HPSV With Anamorphic Attachment A | L | R | T | B | Accept | Reject |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.3X | 1X | | | | | | | | | | | | |
| 1.3X | 2X | | | | | | | | | | | | |
| 3X | 1X | | | | | | | | | | | | |
| 3X | 2X | | | | | | | | | | | | |
| 6X | 1X | | | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6X | 2X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 10X | 1X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 10X | 2X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |

Comments:

| 6X Eyepiece Objectives | Zoom Setting | HPSV Resolution at Field Position A | L | R | T | B | HPSV With Anamorphic Attachement A | L | R | T | B | Accept | Reject |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.3X | 1X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 1.3X | 2X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 3X | 1X | — | — | — | — | — | — | — | — | — | — | ——— | — |
| 3X | 2X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 6X | 1X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 6X | 2X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 10X | 1X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |
| 10X | 2X | — | — | — | — | — | — | — | — | — | — | ——— | ——— |

Comments:

2. Field Size

A scale will be placed in the object plane and the field size will be measured. The Anamorphic Attachment shall not cause more than a 5% loss of field when compared with the standard HPSV.

| 10X Eyepiece Objectives | Zoom Setting | HPSV Field Size in mm | HPSV With Anamorphic Attachment Field Size in mm | Accept | Reject |
|---|---|---|---|---|---|
| 1.3X | 1X | ____ | _____ | _____ | _____ |
| 1.3X | 2X | ____ | _____ | _____ | _____ |
| 3X | 1X | ____ | _____ | _____ | _____ |
| 3X | 2X | ____ | _____ | _____ | _____ |
| 6X | 1X | ____ | _____ | _____ | _____ |
| 6X | 2X | ____ | _____ | _____ | _____ |
| 10X | 1X | ____ | _____ | _____ | _____ |
| 10X | 2X | ____ | _____ | _____ | _____ |

Comments:

| 6X Eyepiece Objectives | Zoom Setting | HPSV Field Size in mm | HPSV With Anamorphic Attachment Field Size in mm | Accept | Reject |
|---|---|---|---|---|---|
| 1.3X | 1X | ____ | _____ | _____ | _____ |
| 1.3X | 2X | ____ | _____ | _____ | _____ |
| 3X | 1X | ____ | _____ | _____ | _____ |
| 3X | 2X | ____ | _____ | _____ | _____ |
| 6X | 1X | ____ | _____ | _____ | _____ |
| 6X | 2X | ____ | _____ | _____ | _____ |
| 10X | 1X | ____ | _____ | _____ | _____ |
| 10X | 2X | ____ | _____ | _____ | _____ |

Comments:

3. Anamorphic Magnification

25X1 In this test a [redacted] 10X wide field eyepiece will be used instead of the

25X1 [redacted] eyepiece. Its purpose is to accept a scale which will be used for measuring the lengths of perpendicular meridians. A suitable scale or grid will be used in the object plane. The ratio of the lengths of perpendicular meridians is a measure of the Anamorphic Magnification. The Anamorphic Magnification range shall be from 1.0 to 2.2X.

HPSV WITH ANAMORPHIC ATTACHMENT

| | Anamorphic Scale Setting | Calculated Anamorphic Magnification (Ratio of Perpendicular Meridians) | Accept | Reject |
|---|---|---|---|---|
| 3X obj. | 1.0 | | | |
| | 1.2 | | | |
| 1X Zoom Setting | 1.4 | | | |
| | 1.6 | | | |
| | 1.8 | | | |
| | 2.0 | | | |
| | 2.2 | | | |

Comments:

4. Eye Point Extension and Eye Relief

The difference in length between the standard HPSV eyepoint and the eyepoint of the HPSV with Anamorphic Attachment will be calculated. Both measurements will be made relative to a fixed point on the HPSV.

| | | Accept | Reject |
|---|---|---|---|
| Distance with Anamorphic Attachment | _____ | _____ | _____ |
| Distance with Standard HPSV | _____ | _____ | _____ |
| Difference - Eyepoint Extension | _____ | _____ | _____ |

The eyepoint extension shall be no more than 3 inches.

The eye relief shall be measured from the exit pupil to the eyepiece.

| | Standard HPSV | HPSV with Anamorphic Attachment | Accept | Reject |
|---|---|---|---|---|
| Eye Relief | _____ | _____ | _____ | _____ |

The Interpupillary separation shall be measured with and without the Anamorphic Attachments in place.

| | Standard HPSV | HPSV with Anamorphic Attachment | Accept | Reject |
|---|---|---|---|---|
| IPD | _____ | _____ | _____ | _____ |

Comments:

5. Interchangeability

The time required to remove the Anamorphic Attachment shall be less than five minutes, without the use of special tools.

Time Required for Removal of the Anamorphic Attachment

| | Accept | Reject |
|---|---|---|
| _____ Minutes | _____ | _____ |

Comments:

6. Anamorphic Axis Orientation

Verification will be made that the direction of anamorphic magnification shall be rotatable through $360^{o}$.

| Accept | Reject |
|---|---|
| _____ | _____ |

Comments:

7. Percent Transmission

The transmission of the Anamorphic Attachment shall be determined. A small diameter collimated beam of light will be transmitted through the Anamorphic Attachment equipped with the [ ] 10X wide field compensating eyepiece. The light energy will be measured and will be compared to the light energy passing through the [ ] 10X eyepiece. The ratio of the two values obtained will be a measure of the light

25X1

25X1

transmission of the Anamorphic Attachment.

| | | Light | Energy |
|---|---|---|---|
| | | 1X | 2.2X |
| (1) | Anamorphic Attachment with 10X [ ] Eyepiece | | |
| (2) | 10X [ ] Eyepiece | | |

$$\% \text{ Transmission} = \frac{(1)}{(2)} \times 100 = \underline{\qquad\qquad}$$

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